WHAT IS CLAIMED IS:

1. An isolated nucleic acid sequence encoding a protein, wherein the protein has the following properties: (i) the protein has microtubule-stimulated ATPase activity; and (ii) the protein comprises a sequence that has greater than 90% amino acid sequence identity to SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, or SEQ ID NO:10 as measured using a sequence comparison algorithm.

2. An isolated nucleic acid sequence of claim 1, wherein the protein specifically binds to polyclonal antibodies generated against a protein comprising SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, or SEQ ID NO:10.

3. An isolated nucleic acid sequence of claim 1, wherein the nucleic acid encodes SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, or SEQ ID NO:10.

4. An isolated nucleic acid sequence of claim 1, wherein the nucleic acid comprises a polynucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, or SEQ ID NO:9.

5. An isolated nucleic acid sequence of claim 1, wherein the nucleic acid hybridizes under stringent hybridization conditions to SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, or SEQ ID NO:9.

6. An expression vector comprising a nucleic acid encoding a protein, wherein the protein has the following properties: (i) the protein has microtubule stimulated ATPase activity; and (ii) the protein comprises a sequence that has greater than 90% amino acid sequence identity to SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, or SEQ ID NO:10 as measured using a sequence comparison algorithm.

7. A host cell transfected with the vector of claim 6.

8. An isolated protein, wherein the protein comprises a sequence that has greater than 90% amino acid sequence identity to SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, or SEQ ID NO:10 as measured using a sequence comparison algorithm and wherein the protein has microtubule stimulated ATPase activity.

9. An isolated protein of claim 8, wherein the protein specifically binds to polyclonal antibodies generated against a protein comprising SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, or SEQ ID NO:10.

10. An isolated protein of claim 8, wherein the protein comprises SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, or SEQ ID NO:10.

11. An isolated protein comprising an amino acid sequence of SEQ ID NO:2.

12. An isolated protein comprising an amino acid sequence of SEQ ID NO:4.

13. An isolated protein comprising an amino acid sequence of SEQ ID NO:6.

14. An isolated protein comprising an amino acid sequence of SEQ ID NO:8.

15. An isolated protein comprising an amino acid sequence of SEQ ID NO:10.

16. An isolated nucleic acid comprising a sequence which has greater than 90% sequence identity with nucleotide SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, or SEQ ID NO:9 and which encodes a protein having microtubule-stimulated ATPase activity.

17. A method for screening a compound for anti-malarial activity, which method comprises

contacting the compound with a protein comprising SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, or SEQ ID NO:10; and

determining whether the compound binds to and inhibits the protein, any such binding and inhibition suggesting that the compound may have anti-malarial activity.

18. A method of claim 17, wherein the screening occurs in a multi-well plate as part of a high-throughput screen.